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Teaching food and textiles technology in secondary schools: routes through higher education

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Abstract
This paper is based on a small scale research project carried out by the National Association of Teachers of Home Economics and Technology (NATHE) in the Spring of 1998 into a perceived national shortage of textiles technology teachers and the even greater shortage of food technology teachers.

A number of factors appeared to be relevant including changes in the traditional routes into secondary teaching, a change of focus in some degree courses and the introduction of National Curriculum Design and Technology in 1990. NATHE decided to research into the problem of recruitment of food technology and textile technology teachers to try to identify ways of improving the situation. A range of higher education institutions was asked to complete a questionnaire to elicit information on relevant courses together with examples of posts gained by their graduates.

The paper presents the finding of the research and makes recommendations for the future. The aim of the research was to strengthen the position of food and textiles technology in our schools within the context of design and technology.

Keywords: staffing, food technology, textiles technology, teacher training, higher education courses and careers

The context of the research
Design and Technology (D&T) was introduced in 1990 as a National Curriculum foundation subject for all pupils aged 5 to 16 years in England and Wales (DES, 1990). Up until that time it was common to find the 'craft based' subjects of home economics, including food and textiles, taught to girls, and craft design technology (CDT) to boys. Traditional barriers had begun to breakdown during the 1970s, when equal opportunities legislation made it illegal to restrict subjects based on a gender divide, but it was the introduction of D&T which provided an opportunity for the two subjects to work together under a common umbrella.

The early years of National Curriculum D&T in schools were not easy. Home economics teachers felt threatened as it seemed that their subject was fragmenting and no longer valued. Food and textiles had a place in D&T as food and textiles technology, but ‘family’ elements such as child development, a popular option at GCSE, did not fit into the subject criteria for D&T. Despite this considerable progress was made during the 1990s by many secondary D&T teachers in schools to form coherent departments based on the D&T fields of resistant materials, food and textiles technology and systems and control as outlined by DATA (1995). The term ‘home economics’ is now rarely heard either as a title for a teacher or a subject. Experienced and new teachers entering the profession think of themselves as ‘D&T’ teachers with relevant, including food and textiles, specialisms.

Before the introduction of the National Curriculum the most common route for food and textiles teachers to join the profession was through four year courses which combined a relevant education related degree with a teaching qualification and immediate entry to teaching. Pupils leaving school with A Levels were able to follow courses which included
the title ‘home economics’; for example, a BEd Home Economics from Roehampton Institute, a BEd Home Economics or Dress and Textiles from Bath College of Higher Education. Pupils could also take a limited number of three year BSc courses in Home Economics at, for example, Bath, or a four year BSc Home Economics at Surrey University, with a one year industrial placement, and a postgraduate certificate in education (PGCE). The majority of students on the BSc courses went into posts within the food and retail industry or welfare/social services with some completing a PGCE and all BEd students normally went into teaching (Rutland 1984). The routes for intending teachers of food and textiles in schools were very clear.

The Association of Teachers of Home Economics and Technology (NATHE) has for many years provided course information for prospective higher education students and teachers in schools. During 1997/8 they became aware, due to an increasing number of requests, of a national shortage, particularly in the South East England, of specialist food but also textiles technology teachers. The situation appeared to worsen as schools were looking for teachers to teach the new food or textiles technology GCSE D&T courses introduced in 1996.

NATHE also were concerned by the number of enquires they were receiving from home economists with degrees who wanted, but did not know how, to enter the teaching profession and from teachers unsure how to advise their pupils. A quick survey of the courses at higher education institutions offering suitable courses appeared to indicate considerable changes in course names, emphasis and content.

Research

In the Spring of 1998 NATHE decided to develop the research further. A questionnaire was compiled by the author and Nicola Johnston, the Association’s Assistant and Assistant Editor, piloted, and sent to sixty five higher education institutions, including those previously listed in their guide and new ones identified through the UCAS handbook. Forty-nine completed and returned the questionnaire. Each was asked to provide course data including a) the level and name of the course eg HND, BA, BSc, PGCE, QTS or Masters in ..., b) their duration and c) the core and optional elements using headings listed in Table 1 and finally d) typical posts taken by students on completion of the courses.

<table>
<thead>
<tr>
<th>Core and optional elements of courses</th>
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<tbody>
<tr>
<td>1 Design</td>
<td>9 Nutrition</td>
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<tr>
<td>2 Food science</td>
<td>10 Hospitality</td>
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<tr>
<td>3 Food product development</td>
<td>11 Consumerism</td>
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<tr>
<td>4 Textile science</td>
<td>12 Resource management</td>
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<td>5 Textiles design/development</td>
<td>13 Life skills</td>
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<td>6 Health</td>
<td>14 ICT and communications</td>
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<td>7 Welfare</td>
<td>15 Microbiology</td>
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<td>8 Business</td>
<td>16 Psychology</td>
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Table 1 Core and optional elements of courses

Results

Nicola Johnston collated the results under nine main sections, 5 food, 3 textiles and 1 education related courses: in total, 171 courses. They were:

- **Food Industry Management/Production (16 courses)** - contain an understanding of the principles of food and the effects of processing. Figure 1 shows an emphasis on food product development, business, resource management, ICT and microbiology.
  Career opportunities include: industrial management, retailing, design and development and consumer protection.

- **Food Technology/Science/Studies (15 courses)** - offer a more disciplined approach to the study of food with a focus on the scientific or technological aspects of food and the effects of processing.
  Career opportunities include: consumer protection, design and development (flavouring and additive development, sensory analysis, biotechnology, ingredients engineering), retailing and teaching.

- **Nutrition (15 courses)** - include the study of processes in plants and animals involving the assimilation of nutrients for energy, growth, resistance to infection and repair.
  Career opportunities include: health
education and advisory (hospitals, GPs surgery, community services, new product development, consumer advice and media), teaching.

- **Hospitality and Catering (21 courses)**- prepare students for the hotel and hospitality industry including business travel, weekend breaks, exhibitions venues, theme parks and overseas tourism. Industrial catering covers large-scale organisations such as hospitals, prisons, schools, airlines and the armed forces. Career opportunities include: hospitality industry, retailing, industrial management.

- **Consumer Studies/Science (19 courses)** - examines the interface between the consumer and the service or product provider. Career opportunities include: consumer protection, design and development and retailing. Figure 2 indicates that consumer studies students are more likely than food technology students to go into retailing and consumer protection.

- **Textiles Studies (17 courses)** - includes the production of fibres and fabrics and the
design and the manufacture of clothing and household furnishings.
Career opportunities include: design and development (car interiors, medical dressings, pattern cutting, industrial management (retailing, fashion promotion), teaching.

- Textiles Industry/Management/Production (13 courses) - textile manufacture is becoming increasingly sophisticated as new manufacturing processes are introduced and new fibres developed. Figure 3 indicates an emphasis on textile science, textile design, business, resource management and ICT.
Career opportunities include: design and development, industry management, retailing and teaching as seen in Figure 4.

- Fashion (23 courses) - focusing on 'menswear/womenswear' or accessories is...
very competitive and is based on the need to be highly creative, determined and very hardworking.
Career opportunities include: fashion design and production, retailing.
- Teacher Education (PGCE in D&T) (32) - these are listed in Table 2 for graduates with relevant degrees.
Career opportunities include: teaching D&T food or textiles in secondary schools, middle and senior school management, lecturing, publishing.

Examples of food related degree courses
- Bath Spa University College - BSc Food
- Sheffield Hallam University (resistant materials and control)
- The Open University
- University of Brighton (resistant materials & graphics only)
- University College Chester (textiles)
- University College of St Mark & St John, Plymouth (resistant materials & graphics only)
- University College of Ripon and York St John (resistant materials & graphics only)
- University College Worcester
- University of Exeter (resistant materials & graphics only)
- University of Huddersfield (textiles)
- University of Leeds
- University of Manchester (resistant materials & graphics only)
- University of Northumbria, Newcastle
- University of Wales Institute, Cardiff
- University of Wales College, Newport (resistant materials & graphics only)
- University of the West of England, Bristol (resistant materials & graphics only)
- University of Wolverhampton (resistant materials & graphics only)

<table>
<thead>
<tr>
<th>Bath Spa University College</th>
<th>Management, Food Nutrition and Consumer Protection</th>
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<tbody>
<tr>
<td>Bretton Hall College (textiles)</td>
<td>• King's College London - BSc Nutrition, Dietetics</td>
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<tr>
<td>Brunel University (resistant materials and control)</td>
<td>• Liverpool John Moores University - BA Home Economics, Consumer Studies, BSc Food &amp; Nutrition</td>
</tr>
<tr>
<td>Cheltenham &amp; Gloucester College of HE (resistant materials &amp; graphics only)</td>
<td>• Manchester Metropolitan University - BSc Consumer Product Sciences, Food &amp; Nutrition/Technology</td>
</tr>
<tr>
<td>College of Cardiff, University of Wales</td>
<td>• Sheffield Hallam University - BSc Food &amp; Consumer Studies, Nutrition &amp; Health</td>
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<tr>
<td>De Montford University, Bedford (resistant materials &amp; graphics only)</td>
<td>• South Bank University - BSc Food Science &amp; Technology, Food Nutrition &amp; Health</td>
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<tr>
<td>Edge Hill University College (resistant materials &amp; graphics only)</td>
<td>• Roehampton Institute London - BSc</td>
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<tr>
<td>Goldsmiths' College, University of London (resistant materials, graphics, textiles)</td>
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<td>Leeds Metropolitan University</td>
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<td>Liverpool John Moores University (all specialisms)</td>
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<td>Loughborough University (resistant materials &amp; graphics only)</td>
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<td>Manchester Metropolitan University</td>
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<td>Middlesex University (resistant materials &amp; graphics only)</td>
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<td>Nottingham Trent University (textiles)</td>
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<tr>
<td>North London Consortium (SCITT)</td>
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<tr>
<td>Roehampton Institute London (all specialisms)</td>
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</table>

Table 2 PGCE D&T courses - Only the highlighted courses (11) take food technology specialists and few of these are in the South East
Applied Consumer Studies, Retail & Product Management, Nutrition and Health
- University of Brighton - BA Food Retail Management
- University College Cardiff - BSc Biological Science
- University of Humberside - BSc Food Science
- University of North London - BSc Human Nutrition, Food Science
- University of Plymouth - BSc Food Production/Food and Hospitality Management
- University of Salford - BA Applied Consumer Studies, Food Industry Management
- University of Surrey - BSc Nutrition, Nutrition: Dietetics, Nutrition: Food Science
- University of Reading - BSc Food Manufacturing, Management and Marketing, Food Science, Food Economy and Marketing
- University of Ulster - BA Consumer Studies
- University of Wales - BSc Consumer Science, Food Technology/Studies/Science & Technology

Examples of textiles related degree courses
- Bolton Institute of Higher Education - BSc Textiles Technology, Textiles (Technology & Design or Management or Marketing)
- Bretton Hall - BA Fashion
- De Montfort University - BSc Textiles Design & Production, BA Fashion & Textile Design
- Central Saint Martin's College of Art & Design (The London Institute) - BA Fashion
- Goldsmiths' College (University of London) - BA Textiles
- Kingston University - BA Fashion
- Leeds College of Art & Design - BA Clothing/Fashion
- Liverpool John Moores University - BA Fashion & Design
- London College of Fashion - BA Fashion Production, Production Development, Design Technology for the Fashion Industry
- Manchester Metropolitan University - BA Textiles, Embroidery, Fashion Design with Technology, Fashion
- Nene College of Higher Education - BA Fashion & Textiles
- Nottingham Trent University - BA Clothing Studies
- Scottish College of Textiles - BSc Textiles, Textiles Design, Textiles with Marketing, Clothing Design & Manufacture, Textiles & Fashion Design
- Somerset College of Arts & Technology - BA Design
- University of Huddersfield - BA/BSc Textiles Design, Creative Textiles Crafts, Surface Pattern
- University of Leeds - BA Textile Design, Textile Studies
- University of Northumbria at Newcastle - BA Fashion, Fashion Marketing
- University of Westminster - BA Fashion
- University of Manchester Institute of Science & Technology (UMIST) - BSc Textiles Science & Technology, Textile Design & Design Management, Textiles Technology & Management, Clothing Engineering and Management and Marketing of Textiles

Conclusions
Findings from the research indicate that there have been considerable changes in recent years in food and textiles related higher education courses suitable for prospective teachers. However, it can be argued that they are more suited to teaching the new National Curriculum D&T courses. The increased emphasis on industrial practices, retailing and an understanding and ability to use modern technology are well suited to future teachers. The move away from the traditional 'home', 'meals for the family' or 'domestic activities' focus of many BEd food and textiles courses is appropriate as preparation for a career in industry or retailing as well as teaching in schools.

The findings of the research indicate that:
- The range of food and textiles courses available for pupils leaving school at eighteen has increased and the increased variety of possible careers is impressive.
- The content of many food and textiles
related courses has strong industrial and business bases. Food degrees are predominantly BSc courses and include a high element of food science, food product development, microbiology, nutrition, ICT and communication. Textiles courses may be a BA with a focus on fashion, design, marketing and creative textiles or a BSc with a focus on technology, manufacturing and management.

• Only two courses include 'home economics' in their title. These were a BA Hons Home Economics from John Moores University and a BSc Hons Consumer & Management Studies: Home Economics from Glasgow Caledonian University. However, the title 'consumer studies' is frequently used. These courses, though updated, appear to have more in common with the home economics courses of the past.

• Food and textiles courses have increased in number and are widely spread across the UK, with a larger number of industrially based textiles courses in the traditional textiles areas of the North of England. There appears to be no shortage of food degree courses in the South of England, where the greatest shortage of food technology teachers is to be found.

• There are no four year food or textiles BA or BSc degree course that include qualified teacher status (QTS).

• Not all PGCE D&T courses take either food or textiles technology specialists. The number taking food specialists is even smaller, especially in the South East of England where the teacher shortage is greatest.

Recommendations

• Increase the number of first degree and PGCE courses specialising in food and textiles technology to take into account the needs of industry and education.

• Develop stronger links between higher education institutions offering food and textiles degrees and PGCE courses. Consider setting up schemes in which a PGCE is an optional addition to the degree course.

• Target male, ethnic and mature students.

• Provide 'returners' courses' for home economics teachers wanting to return to the teaching profession.

• Help applicants with food and textiles related diplomas to 'upgrade' to degree level.

• Highlight the problems and the long term implications of a shortage of food and textiles technology teachers with industry. Gain their support to develop more courses.

• That professional associations, schools, higher education, industry, local and national careers services develop a stronger network to share information.

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